

Be specific! On the availability of participants encoded by particles

Sandra Pappert & Michael Baumann (Bielefeld University)

michael.baumann@uni-bielefeld.de

In German, a sentence that describes an event of caused motion, where the theme ends up in contact with the surface of a specific location, the location is typically encoded as a PP (a). When the location has a low informative content, a particle can saturate its slot in the verb's argument structure (b). It is assumed that the particle incorporates a change of location into the verb's semantics, but contrary to the situation in the prepositional locative form the location remains underspecified (Stiebels, 1996; Härtl & Witt, 1998). The question arises whether this is reflected at the conceptual level of speech processing, that is whether the conceptual representation of the PP and the particle actually differ.

To answer this question, we conducted two sentence production experiments in German using the structural priming paradigm. Structural priming terms the phenomenon that speakers tend to persist in their use of sentence structures that they processed previously. This has been accounted for mainly as affecting linguistic representations at a syntactic level, like phrase structure nodes (Pickering & Branigan, 1998) or word category sequences (Chang et al., 2015). Nevertheless, there is evidence that priming of conceptual representations contribute to structural persistence (e.g., Pappert & Pechmann, 2014). It has also been shown that structural priming does not differentiate between location and recipient roles (Bock & Loebell, 1990; Pappert et al., 2012). Following this reasoning we compared the impact of prepositional locatives like (a) with that of their particle variants (b) and of dative alternation prime sentences ((c), (d)) on structural priming of dative alternation target structures (AccPP vs. DatAcc).

In Experiment 1, prime sentences were presented auditorily and targets were presented as a word list (e) on a PC screen for spoken sentence generation. We predicted that priming of AccPP responses by prepositional locatives and their particle variants would differ. Indeed (with $N = 588$), AccPP primes elicited the highest relative proportion of AccPP responses (21.9%), followed by the prepositional locative primes (13.0%), their particle variants (6.7%) and DatAcc primes (4.3%). Comparisons with the DatAcc condition in generalized linear mixed models revealed a significant structural priming effect by AccPP ($p < .001$) and, in line with our predictions, by prepositional locative primes ($p < .01$) but not by their particle variants ($p = .21$).

Experiment 2 was designed to narrow down this effect. The procedure was the same as in Exp. 1, but this time a question (f) preceded a prime. We hypothesized that participants would refer to the location given in the question to update their mental representation of the event described by the particle verb variant. This process might produce an event representation similar to that leading to the overt realization of a location in a prepositional form and thereby produce priming despite lexical and syntactic dissimilarities. The outcome mirrored our prediction (with $N = 648$): there was no difference between AccPP response proportions after prepositional locatives (26.0%) and their particle variants (18.7%; $p = .12$) but crucially between the DatAcc condition (10.8%) and prepositional locatives ($p < .001$) as well as between DatAcc and the condition with particles ($p < .05$). AccPP (vs. DatAcc) primes elicited 24.2% AccPP responses ($p < .001$).

Taken together, the results let us conclude that, without a supporting context, a particle functioning as a semantically underspecified location argument is not sufficient for the construction of a conceptual event representation that includes a location participant role. However, if a specific location is inferable from the context, it is integrated into the representation and therefore it becomes available as a participant role. The structural priming effect suggests that this updated representation is similar to the event representation of a full form prepositional sentence.

- (a) *Die Grafikerin klebt das Foto an die Dose.*
 the.NOM graphic artist sticks the.ACC photo to the.ACC can
 'The graphic artist sticks the photo to the can.'
 prepositional locative
- (b) *Die Grafikerin klebt das Foto an.*
 the.NOM graphic artist sticks the.ACC photo to.PART
 'The graphic artist sticks the photo on.'
 particle verb variant
- (c) *Die Grafikerin liefert das Foto an die Journalistin.*
 the.NOM graphic artist sends the.ACC photo to the.ACC journalist
 'The graphic artist sends the photo to the journalist.'
 AccPP
- (d) *Die Grafikerin liefert der Journalistin das Foto.*
 the.NOM graphic artist sends the.DAT journalist the.ACC photo
 'The graphic artist sends the journalist the photo.'
 DatAcc
- (e) *übergeben Oberst Orden Soldat*
 'to hand' 'colonel' 'medal' 'soldier'
 AccPP response "Der Oberst übergibt den Orden an den Soldaten."
 'The colonel hands the medal to the soldier.'
 DatAcc response "Der Oberst übergibt dem Soldaten den Orden."
 'The colonel hands the soldier the medal.'
- (f) *Was ist mit der Dose / der Journalistin?*
 'What about the can / the journalist?'

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